

SEQUENCE LISTING

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<120> RESISTANCE-REPELLENT RETROVIRAL PROTEASE INHIBITORS

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<151> 2002-01-07

<160> 68

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<210> 1

<211> 99

<212> PRT

<213> Human immunodeficiency virus type 1

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Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
20 25 30

Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
35 40 45

Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
50 55 60

Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
65 70 75 80

Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
85 90 95

Leu Asn Phe

<210> 2  
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 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 2  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
           65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 3  
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 <213> Human immunodeficiency virus type 1

<400> 3  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
           65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 4  
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 <213> Human immunodeficiency virus type 1

<400> 4  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Val Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 5  
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 <213> Human immunodeficiency virus type 1

<400> 5  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Thr Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 6  
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 <213> Human immunodeficiency virus type 1

<400> 6  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Lys Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
           20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 7  
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 <213> Human immunodeficiency virus type 1

<400> 7  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asn Thr Gly Ala Asp Asp Thr Val  
           20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 8  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 8  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Arg  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 9  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 9  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Ser Thr Val Leu Val Gly Pro Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 10  
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 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 10  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Ile Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe

<210> 11  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 11  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Val Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe

<210> 12  
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 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 12  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Arg Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
           65                  70                  75                  80  
 Pro Ile Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 13  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 13  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
           65                  70                  75                  80  
 Pro Ile Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 14  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 14  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Ala Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
       65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe

<210> 15  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 15  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
       35                  40                  45  
 Arg Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Thr Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
       65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe



<210> 16  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 16  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 17  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 17  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 18  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1.

<400> 18  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Ile Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 19  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 19  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Ile Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 20  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 20  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe

<210> 21  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 21  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Ile Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe

<210> 22  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 22  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Thr Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Ile Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 23  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 23  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
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 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
       35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 24  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 24  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Ile Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 25  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 25  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Leu Val Thr Ile Arg Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 26  
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 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 26  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe

<210> 27  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 27  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
       35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe

<210> 28  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 28  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
                   35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 29  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 29  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Thr Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 30  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 30  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 31  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 31  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe



<210> 32  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 32  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Thr Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 33  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 33  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
       35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Glu Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Arg Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 34  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 34  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Thr Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 35  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 35  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
       35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Ile Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 36  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 36  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 37  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 37  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Ile Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 38  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 38  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
   50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 39  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 39  
 Pro Gln Ile Thr Pro Asn Gln Gln Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
   50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 40  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 40  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly His Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 41  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 41  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Ile Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Arg  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 42  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 42  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Arg Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 43  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 43  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
   35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
   50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 44  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 44  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Val Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe

<210> 45  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 45  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
   50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe

<210> 46  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 46  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Arg Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 47  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 47  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe



<210> 48  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 48  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
           1                  5                  10                  15  
 Gly Gln Leu Lys Glu Thr Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Ile Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
           65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asp Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 49  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 49  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
           1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
           65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asp Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 50  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 50  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 51  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 51  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Ser Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Ser Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 52  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 52  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Thr Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 53  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 53  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 54  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 54  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Ser Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 55  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 55  
 Pro Gln Ile Thr Phe Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
       35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Leu Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asp Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 56  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 56  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asp Leu Leu Thr Leu Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 57  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 57  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asp Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 58  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 58  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
       65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asp Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe

<210> 59  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 59  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
       35                  40                  45  
 Glu Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
       50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
       65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95

Leu Asn Phe

<210> 60  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 60  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 61  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 61  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ser Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 62  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 62  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asp Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 63  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 63  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Tyr Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asp Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe



<210> 64  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 64  
 Pro Gln Ile Thr Pro Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 65  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 65  
 Pro Gln Ile Thr Pro Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
                   35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
                   50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
                   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 66  
 <211> 99  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 66  
 Pro Gln Ile Thr Leu Asn Gln Arg Pro Phe Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Asn Leu Pro Gly Arg Trp Lys Pro Lys Ile Ile Gly  
           35                  40                  45  
 Gly Val Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Val Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe

<210> 67  
 <211> 197  
 <212> PRT  
 <213> Human immunodeficiency virus type 1

<400> 67  
 Pro Gln Ile Thr Leu Trp Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
   1                  5                  10                  15  
 Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
                   20                  25                  30  
 Leu Glu Glu Met Ser Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
           35                  40                  45  
 Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
           50                  55                  60  
 Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
   65                  70                  75                  80  
 Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
                   85                  90                  95  
 Leu Asn Phe Pro Gln Ile Thr Leu Trp Gln Arg Pro Leu Val Thr Ile  
           100                  105                  110  
 Lys Ile Gly Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp  
   115                  120                  125

Asp Thr Val Leu Glu Glu Met Ser Leu Pro Gly Arg Trp Lys Pro Lys  
 130 135 140

Met Ile Gly Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln  
 145 150 155 160

Ile Leu Ile Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val  
 165 170 175

Gly Pro Thr Pro Val Asn Ile Ile Gly Arg Asn Leu Leu Thr Gln Ile  
 180 185 190

Gly Cys Thr Leu Asn  
 195

<210> 68

<211> 197

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 68

Pro Gln Ile Thr Leu Trp Gln Arg Pro Leu Val Thr Ile Lys Ile Gly  
 1 5 10 15

Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp Asp Thr Val  
 20 25 30

Leu Glu Glu Met Ser Leu Pro Gly Arg Trp Lys Pro Lys Met Ile Gly  
 35 40 45

Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln Ile Leu Ile  
 50 55 60

Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val Gly Pro Thr  
 65 70 75 80

Pro Phe Asn Val Ile Gly Arg Asn Leu Leu Thr Gln Ile Gly Cys Thr  
 85 90 95

Leu Asn Phe Pro Gln Ile Thr Leu Trp Gln Arg Pro Leu Val Thr Ile  
 100 105 110

Lys Ile Gly Gly Gln Leu Lys Glu Ala Leu Leu Asp Thr Gly Ala Asp  
 115 120 125

Asp Thr Val Leu Glu Glu Met Ser Leu Pro Gly Arg Trp Lys Pro Lys  
 130 135 140

Met Ile Gly Gly Ile Gly Gly Phe Ile Lys Val Arg Gln Tyr Asp Gln  
 145 150 155 160

Ile Leu Ile Glu Ile Cys Gly His Lys Ala Ile Gly Thr Val Leu Val  
 165 170 175

Gly Pro Thr Pro Phe Asn Val Ile Gly Arg Asn Leu Leu Thr Gln Ile  
 180 185 190

Gly Cys Thr Leu Asn  
195